REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested. Claims 1-27, 30-31, 42-43, and 53-54 have been canceled. Claims 37, 49, and 59 have been amended. Claims 28-29, 32-41, 44-52 and 55-60 are currently pending in the application.

OBJECTIONS TO THE SPECIFICATION

In the Office Action, the Examiner objected to the Specification for failing to disclose the term "machine-readable storage medium", which is recited in claims 40-41 and 44-51. Applicants respectfully submit that given the disclosure of "machine-readable medium" in the Specification, and the common meaning of "storage", it would be clear to one of ordinary skill in the art what the term "machine-readable storage medium" means; thus, no further disclosure is needed. Nonetheless, in the interest of advancing prosecution, Applicants have amended paragraph 0092 of the Specification to explicitly refer to "machine-readable storage media". Applicants note that this amendment merely makes explicit what was already implicit in the Specification. Thus, no new matter has been added. Applicants believe that this amendment addresses the Examiner's concerns; thus, Applicants request that this objection be withdrawn.

CLAIM REJECTION UNDER 35 U.S.C. §101

In the Office Action, the Examiner rejected claims 40-41 and 44-51 under 35 U.S.C. §101 as being directed to non-statutory subject matter. Specifically, the Examiner contended that the term "machine-readable storage medium" may include transmission media, which

can take the form of light, acoustic, or carrier waves. Since such waves, in the Examiner's opinion, are non-statutory, the Examiner concluded that claims 40-41 and 44-51 are directed to non-statutory subject matter. This rejection is respectfully traversed.

As noted above, paragraph 0092 of the Specification has been amended to explicitly disclose "machine-readable storage media". As amended, paragraph 0092 makes it clear that "machine-readable storage media" do not include transmission media. Applicants believe that this amendment addresses the Examiner's concerns with regard to non-statutory subject matter. Accordingly, Applicants request that this objection be withdrawn.

CLAIM REJECTION UNDER 35 U.S.C. §112

In the Office Action, the Examiner rejected claims 28-29, 32-41, 44-51 and 55-60 under 35 U.S.C. §112, first paragraph, for failing to comply with the written description requirement. Specifically, the Examiner contended that the limitation of "wherein the first and second non-global zones are established by the OS kernel" recited in claims 28, 40, and 52 is not disclosed in the Specification. This rejection is respectfully traversed.

Paragraph 0045 of the Specification states:

> To put an Installed zone into the Ready state, a global administrator invokes <u>an operating system utility</u> (in one embodiment, zoneadm(1m) again), which causes a zoneadmd process 162 to be started (there is a zoneadmd process associated with each non-global zone). In one embodiment, zoneadmd 162 runs within the global zone 130 and is responsible for managing its associated non-global zone 140. After zoneadmd 162 is started, it <u>interacts with the kernel 150 to establish the non-global zone 140</u>. (Emphasis added)

From this excerpt, it is clear that a non-global zone is established (i.e. put into the Ready state) by invoking an operating system utility to cause a zoneadmd process to be started, and having the zoneadmd process <u>interact with the kernel to establish the non-global</u>

zone. From this excerpt, it is clear that the operating system, and in particular the kernel, participates significantly in the non-global zone establishment process. Thus, the limitation of "wherein the first and second non-global zones are established by the OS kernel" is clearly disclosed in the Specification. Accordingly, Applicants request that this rejection be withdrawn.

In the Office Action, the Examiner rejected claims 28-29, 32-51, 44-51, and 55-60 under 35 U.S.C. 112, second paragraph, as being indefinite. In particular, the Examiner contended that the meaning of the term "established" is indefinite. This rejection is respectfully traversed.

In at least paragraphs 0045 and 0046 of the Specification, it is made clear that a non-global zone is <u>established</u> when it is put into the Ready state to give rise to a virtual platform. The Ready state of a non-global zone is clearly and fully described; thus, there is no ambiguity or indefiniteness as to what it means for a non-global zone to be established. Accordingly, Applicants respectfully submit that the term "established" is clear and definite, and request that this rejection be withdrawn.

CLAIM REJECTION UNDER 35 U.S.C. §103

In the Office Action, the Examiner rejected claims 28-29, 32-41, 44-52, and 55-60 under 35 U.S.C. §103(a) as being unpatentable over Schaefer (U.S. Publication No. 2002/0174215 A1) in view of Susser et al. (International Publication No. WO 00/45262), and further in view of Berger et al. (U.S. Publication No. 2003/0014466 A1). This rejection is respectfully traversed.

Claim 28

Claim 28 recites:

A machine-implemented method, comprising:
establishing, within a global operating system environment provided by an operating
        system (OS) kernel, a first non-global zone which serves as a first virtual
        platform for supporting and isolating user processes, wherein the first non-
        global zone is a separate and distinct OS partition of the global operating
        system environment having a first zone identifier associated therewith, and
        wherein the first non-global zone is established and exists without requiring
        any user processes to be running therein;
establishing, within the global operating system environment, a second non-global
        zone which serves as a second virtual platform for supporting and isolating
        user processes, wherein the second non-global zone is a separate and distinct
        OS partition of the global operating system environment having a second zone
        identifier associated therewith, and wherein the second non-global zone is
        established and exists without requiring any user processes to be running
        therein;
executing a first set of one or more user processes within the first non-global zone;
executing a second set of one or more user processes within the second non-global
        zone; and
isolating the first set of one or more user processes within the first non-global zone
        and the second set of one or more user processes within the second non-global
        zone such that the first set of one or more user processes cannot access
        processes in the second non-global zone and the second set of one or more
        user processes cannot access processes in the first non-global zone;
wherein the first and second non-global zones are established by the OS kernel, and
        wherein the OS kernel enforces zone boundaries to isolate the first set of one
        or more user processes within the first non-global zone and the second set of
        one or more user processes within the second non-global zone. (Emphasis
        added)

As indicated by the above underlining, claim 28 specifically recites "establishing a

first non-global zone which…is a separate and distinct OS partition…wherein the first non-

global zone…exists without requiring any user processes to be running therein." Similarly,

claim 28 specifically recites "establishing a second non-global zone which…is a separate and

distinct OS partition…wherein the second non-global zone…exists without requiring any

user processes to be running therein." Put more succinctly, these portions of claim 28 recite

establishing a first and second <u>separate and distinct OS partitions that exist without requiring</u> <u>any user processes to be running therein</u>. These aspects of claim 28 are neither disclosed nor suggested by the applied references, taken individually or in combination.

In rejecting claim 28, the Examiner contended that the "separate and distinct OS partitions" aspect is taught by Berger and the "exists without requiring any user processes to be running therein" aspect is taught by Susser. The Examiner further contended that it would have been obvious to combine the teachings of the two references to produce the above-discussed aspects of claim 28. Applicants respectfully disagree.

First of all, Applicants note that, contrary to the Examiner's contention, Susser <u>does</u> <u>not</u> contain any explicit teaching of the "exists without requiring any user processes to be running therein" requirement. As argued in the response after final filed on January 28, 2008, there in <u>no explicit teaching</u> in Susser that the execution contexts (which the Examiner is interpreting to be the non-global zones recited in claim 28) <u>can exist without requiring any</u> <u>user processes to be running therein</u>. In fact, there is strong indication in Susser that the execution contexts cannot exist without having user processes running within them. Specifically, it is quite telling that Susser refers to the contexts as "execution contexts" (see e.g. page 10, lines 26-31, page 11, lines 13-15, etc.). The use of the word "execution" strongly suggests that the purpose of the contexts is to support execution of processes. If no processes are executing, then there is no need for an execution context. Given the overall disclosure of Susser, Applicants strongly believe that, unlike the non-global zones recited in claim 28, the execution contexts of Susser cannot exist without requiring user processes to be running therein. <u>There certainly is no explicit teaching in Susser that the execution contexts</u> <u>can exist without having user processes running within them.</u>

Even if Susser could be interpreted to teach that the execution contexts can exist without having user processes running within them, it should be noted that the <u>execution contexts of Susser are not OS partitions</u>. As argued in the response filed on February 28, 2008, it is the runtime system 740 in the virtual machine 720, not the operating system 760, that establishes and manages the contexts. There is absolutely nothing in Susser that discloses or suggests that the operating system 760 establishes the contexts. In fact, it does not appear that the operating system 760 of Susser is even aware of the different contexts. Therefore, the contexts of Susser are clearly not OS partitions. Rather, they are constructs implemented by <u>a process in user space</u>. Thus, at best, Susser suggests an execution context implemented by a process in user space that can exist without having user processes running therein.

From the rejection, it is the clear that the Examiner realizes that the execution contexts of Susser are not OS partitions. The Examiner tries to make up for Susser's shortcomings by citing Berger, which teaches an OS that implements compartments. The Examiner contends that the combination of Berger and Susser teaches the above-discussed aspects of claim 28. Applicants respectfully disagree.

For the sake of argument, it will be assumed that the compartments of Berger can be interpreted to be the OS partitions of claim 28. Even if this were so, however, the combination of Berger and Susser still would not give rise to an <u>OS partition that can exist without having user processes running therein</u>. As argued above, Susser at best suggests an <u>execution context implemented by a process in user space</u> that can exist without having user processes running therein. Even if Susser were combined with Berger (assuming for the sake of argument that it would have been obvious to combine the references), the combination still

would only produce <u>a system having an operating system that implements compartments, and a runtime (that runs on top of the operating system) that implements, in user space, execution contexts that can exist without user processes running within them</u>. The combination <u>would not produce</u> a system in which <u>the compartments implemented by the operating system can exist without user processes running within them</u>.

From the rejection, it appears that the Examiner is trying to take a concept ("can exist without having user processes running therein") that applies to one context (an execution context implemented by a process in user space) and apply it to another context (compartments implemented by an operating system in operating system space). This can be done only if the two contexts are fundamentally the same. That is not the case here. As is well known in the art, the considerations and constraints associated with implementing functionality in user space are very fundamentally different from those associated with implementing functionality in the operating system space. Just because a functionality can be implemented in user space does not mean that it can or should be implemented in operating system space, and vice versa. Thus, one cannot simply take a concept taught for user space and apply it to operating system space, as suggested by the Examiner. In fact, given the very different considerations in the two spaces, it would not be obvious to do so. In the current case, Applicants can see no suggestion or motivation (other than hindsight) to apply the teachings of Susser pertaining to execution contexts implemented by a process in user space to the compartments implemented by the OS of Berger in operating system space. Consequently, one or ordinary skill in the art would not have combined the references in the manner suggested by the Examiner; hence, Susser and Berger fail to disclose or suggest the aspects of claim 28 discussed above.

Schaefer also fails to disclose or suggest these same aspects of claim 28, and the Examiner has made no contention that these aspects are disclosed or suggested by Schaefer. Thus, even if all three references were combined (assuming for the sake of argument that it would have been obvious to combine the references), the combination still would not yield the invention as claimed in claim 28. Therefore, Applicants respectfully submit that claim 28 is patentable over Schaefer, Susser, and Berger, taken individually or in combination.

Applicants further submit that claims 29 and 32-39, which depend from claim 28, and which recite further advantageous aspects of the invention, are likewise patentable over Schaefer, Susser, and Berger for at least the reasons given above in connection with claim 28.

Claim 40

Claim 40 is a machine-readable storage medium counterpart of method claim 28. Applicants submit that claim 40 is patentable over Schaefer, Susser, and Berger for at least the reasons given above in connection with claim 28.

Applicants further submit that claims 41 and 44-51, which depend from claim 40, and which recite further advantageous aspects of the invention, are likewise patentable over Schaefer, Susser, and Berger for at least the reasons given above in connection with claim 40.

Claim 52

Claim 52 is an apparatus counterpart of method claim 28. Applicants submit that claim 52 is patentable over Schaefer, Susser, and Berger for at least the reasons given above in connection with claim 28.

Applicants further submit that claims 55-60, which depend from claim 52, and which recite further advantageous aspects of the invention, are likewise patentable over Schaefer, Susser, and Berger for at least the reasons given above in connection with claim 52.

DEPENDENT CLAIMS

Applicants note that the various dependent claims recite additional limitations that render them independently patentable over the applied art. However, in light of the arguments offered above in connection with the independent claims, Applicants do not believe that it is necessary to address these additional limitations at this time. Applicants reserve the right to argue these additional limitations at a later time, if necessary.

CONCLUSION

For the foregoing reasons, Applicants submit that all of the pending claims are patentable over the art of record, including any art cited but not applied. Accordingly, Applicants respectfully request that this response be entered and made of record, and that a notice of allowance be issued.

The Examiner is invited to telephone the undersigned attorney to discuss any issues that may advance prosecution.

To the extent necessary to make this reply timely, Applicants petition for an extension of time under 37 C.F.R. §1.136.

If any applicable fee is missing or insufficient, throughout the pendency of this application, the Commissioner is hereby authorized to apply any applicable fees and to credit any overpayments to our Deposit Account No. 50-1302.

Respectfully submitted,

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